

REMARKS

Claims 1-78 are pending in the application, of which Claims 1, 11, 19, 29, 37, 47, 55, 63, and 71 are independent claims. All claims stand rejected under 35 U.S.C. § 103. The rejections are traversed. Claim amendments have been entered to clarify the claimed subject matter, but the amendments do not represent an acquiescence to the rejections.

Regarding Rejections

Claims 1-78 have been rejected under 35 U.S.C. § 103(a) based on U.S. Patent No. 6,338,067 to Baker et al. in view Ma et al., “Efficient Encoding and Rendering of Time-Varying Volume Data.” As previously argued, the Office Action fails to establish a *prima facie* showing of obviousness. Claims 55-78 have also been rejected under 35 U.S.C. § 103(a) based on Baker in view of U.S. Patent No. 6,195,103 to Stewart.

As disclosed and claimed by the Applicants, a series of raw data values (e.g. daily closing stock prices) are stored in a database. For the series of raw data values, a plurality of intervals of adjustment data (e.g. split adjustments) are also stored in the database. By retrieving an adjusted data value from the database, such as to compute a moving average, the intervals of adjustment data are applied to the raw data values. Those calculations are performed in response to the retrieval process by, for example, defining a database view to associate the raw data values with the adjustment data.

By maintaining current adjustment values in the database, the Applicants can transparently retrieve adjusted data values. The cited references do not teach or suggest such a system.

The primary reference, Baker, discusses a product hierarchy database. FIG. 7 of Baker is the only example of using pricing data. As shown in FIG. 7, the stored time series data values are merely tabulated for display. Baker does not teach or suggest applying adjustment values (split values) to raw data values (security process). Nor does Baker teach or suggest the claimed “adjustment data.”

Ma, on the other hand, discusses encoding and rendering of time-varying volume data. Contrary to the assertion in the Office Action, Ma neither discloses nor suggests interval adjustment data, which includes adjustment values to be applied to raw data values over a specified range in a series. Furthermore, there is no motivation to combine Ma with Baker.

As described in the Applicants' specification, interval adjustment data is used to adjust the raw data over an interval of the series (e.g. stock price over a period of time) to yield adjusted data values for a selected point in the series. These adjustments are needed to accurately use data over different periods in the series, such as earlier data with later data, because, for example, the value of money or the meaning of a share changes over time.

In contrast to such applications, Ma discusses visualizing volume data. The volume data in the Ma time series is recorded from sensing instruments or generated in simulations. The unit of volume used has the same meaning at the beginning and end of the time series. That is, a liter is always a liter — it always holds the same volume. Ma does not suggest that a measured value be adjusted for a specified range of the series. There is thus no need for interval-based adjustments, and in fact none is disclosed or suggested by Ma.

Even if Ma did disclose interval based adjustments to time-varying volume data, there is no motivation to combine Ma with Baker. As previously discussed, Baker stores data related to securities, including certain split data. There is no teaching or suggestion in Baker to do any more with the time series data than to display it. One of ordinary skill in the art having knowledge of Baker and wishing to apply the split data to stock pricing data would look to the securities art, not art related to data compression and rendering of volumetric data. Nor does the Office Action suggest any proper motivation. Any suggestion for combining Ma with Baker results from a key word search based on the Applicants' claims. Such use of hindsight is improper.

Like Ma, Stewart is related to the display of time-series data as a color image. It has nothing to do with interval-based adjustments to raw data as recited in the Applicants' claims. As such, Stewart is not properly combinable with Baker.

The cited references fail to suggest the claimed method of applying interval-based adjustments to data in a database, including “for a series of raw data values, storing a plurality of intervals of adjustment data” and “associating the first and second database structures so that the adjustment value is applied in response to retrieval of an adjusted data value from the database” as claimed. In particular, the cited references fail to suggest “a view of the database” to associate the structures and “using the view to apply the adjustment value to the raw data values during retrieval” as claimed. The dependent claims include further distinguishing limitations.

It is noted that the Office Action cites to Baker and Ma to support quoted language that sometimes appears to be from the Applicants’ claims. Such quoted passages cannot be found in the references. Nor is there a clear explanation of how such limitations are suggested by the references.

As one example, on page 4 of the Office Action, it is stated that Ma “disclosed ‘plurality of intervals of adjusted data’ [page 1, introduction, lines 17-24, fig. 1, page 9, fig. 5].” (*See also* page 11). First of all, Ma does not state the quoted language. Second, the Applicants’ claims do not recite that language. The Applicants recite “plurality of intervals of adjustment data” (emphasis added). Finally, the Office Action goes on to state that “intervals of adjusted data correspond to Kwan’s raw time varying data.” Raw data is, by definition, separate and distinct from adjusted data, which results from applying adjustment data to raw data values. Clarification is requested.

The Office Action fails to establish a *prima facie* showing of obviousness under 35 U.S.C. § 103(a). Reconsideration of the rejections of Claims 1-78 is respectfully requested.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

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